03050201-030

(West Branch Cooper River)

General Description

Watershed 03050201-030 is located in Berkeley County and consists primarily of the ***West Branch Cooper River*** and its tributaries. The watershed occupies 36,155 acres of the Lower Coastal Plain region of South Carolina. The predominant soil types consist of an association of the Bladen-Bohicket-Wahee-Chipley series. The erodibility of the soil (K) averages 0.14 and the slope of the terrain averages 1%, with a range of 0-2%. Land use/land cover in the watershed includes: 63.6% forested land, 11.6% water, 7.6% urban land, 7.3% forested wetland, 7.2% agricultural land, 2.2% scrub/shrub land, and 0.5% barren land.

The West Branch Cooper River is flows out of Lake Moultrie through the Tail Race Canal and accepts drainage from Wadboo Creek. The West Branch Cooper River then accepts drainage from Mepkin Creek, Molly Branch (Stony Branch, Wappoola Swamp) and Durham Creek (Durham Canal) before merging with the East Branch Cooper River to form the Cooper River. The West Branch Cooper River also drains into the Back River watershed via Durham Creek. There are a total of 68.3 stream miles and 729.2 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
CSTL-085	S/INT	FW	PIER IN W. BRANCH COOPER RIVER AT END OF RICE MILL ROAD IN PIMLICO

West Branch Cooper River (CSTL-085) - Aquatic life and recreational uses are fully supported. There is a significant increasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand and a significant increasing trend in dissolved oxygen concentration suggest improving conditions for these parameters. To abate aquatic plant growth, aquatic herbicides have been applied from 1998 2005.

A fish consumption advisory has been issued by the Department for mercury and includes the West Branch Cooper River within this watershed (see advisory p.69).

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-024	GB	BLACK MINGO	SANTEE COOPER

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / *FACILITY NAME* / *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* / *TYPE* / *COMMENT*
WEST BRANCH COOPER RIVER TOWN OF MONCKS CORNER WWTP PIPE #: 001 FLOW: 2.4	SC0021598 MAJOR DOMESTIC

WEST BRANCH COOPER RIVER BCW&SA/CENTRAL BERKELEY WWTP PIPE #: 001 FLOW: 1.0	SC0039764 MINOR DOMESTIC
WAPPOOLA SWAMP SCE&G/WILLIAMS ASH DISP PIPE #: 001 FLOW: M/R	SC0046175 MINOR INDUSTRIAL UNCONSTRUCTED
MOLLY BRANCH SCE&G/WILLIAMS LANDFILL PIPE #: 001 FLOW: 0.033	SC0039535 MINOR INDUSTRIAL
MOLLY BRANCH TRIBUTARY OAKLEY MAINTENANCE FACILITY PIPE #: 001 FLOW: 0.0075	SC0026867 MINOR DOMESTIC
MOLLY BRANCH D&A PARTNERSHIP/DANGERFIELD MINE PIPE #: 001 FLOW: M/R	SCG730125 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
SC GENERATING CO., INC. WILLIAMS ASH DISPOSAL	0964-15 SAND

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
SCE&G/WILLIAMS STATION INDUSTRIAL	083320-1601 (IWP-191) ACTIVE
SCE&G/GENCO/WILLIAMS STATION INDUSTRIAL	083309-1601 ACTIVE
BERKELEY COUNTY LANDFILL MUNICIPAL	081001-1101 (DWP-105, ACTIVE 081001-1102)
OLD BERKELEY COUNTY MUNICIPAL	DWP-015 CLOSED
OLD BERKELEY COUNTY/NEIGHBORS SITE MUNICIPAL	DWP-073 CLOSED
BERKELEY COUNTY C&D LANDFILL CONSTRUCTION	081001-1201 --------
BERKELEY COUNTY TIRE DISPOSAL MUNICIPAL	081001-5101 --------

Growth Potential

Future growth is expected in several areas within the watershed, including the Town of Moncks Corner, the Whitesville and Pimlico Communities, and the Berkeley Country Club area. The Town of Moncks Corner and Berkeley County operate water and sewer systems in the area, which may allow scattered development.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

Two TMDLs addressing dissolved oxygen were developed by SCDHEC for the ***Charleston Harbor Estuary:*** one covering the Ashley River and the other covering the Charleston Harbor, the Cooper River, and the Wando River. The Harbor/Cooper River/Wando River portion of the system (consisting of the Tail Race Canal, West Branch Cooper River, East Branch Cooper River, Shipyard Creek, Town Creek, Back River, Goose Creek, Wando River and Charleston Harbor) is not considered to be impaired with respect to dissolved oxygen (with the exception of the Wando River monitoring site MD-115); however, available information indicates much of the system does not meet the applicable water quality standard for dissolved oxygen for significant periods of time and is considered water quality limited for the purposes of wasteload allocation (WLA) development. WLAs are an integral part of a TMDL, and although not always developed through the TMDL process, the Department and EPA have chosen to use the TMDL process to develop WLAs for the Charleston Harbor system (see following section). Results of a water quality model indicate the need for a 70% reduction in discharge of oxygen demanding substances to the overall system. A phased approach to achieving these reductions is proposed with an initial Phase I reduction of 60%. For more detailed information on TMDLs, please visit the SCDHEC's Bureau of Water homepage at http://www.scdhec.gov/water and click on "Watersheds and TMDLs" and then "TMDL Program".

Special Models

Charleston Harbor System TMDLs

The modeling efforts for Charleston Harbor and its tributaries have been completed and phased TMDLs for the Ashley and the Cooper systems have been issued by the Department and approved by EPA Region 4. Interim TMDL limits were included in NPDES permits for a number of dischargers while final TMDL limits were included for some dischargers who were already meeting the final limits. Permits included compliance schedules that allowed the opportunity for additional modeling work to be completed before compliance with final limits is required. A group of dischargers working through the local Councils of Government has initiated another modeling effort that is currently underway. If this effort is successfully completed within the allotted time, the existing TMDLs will be revised and, as appropriate, new limits incorporated into NPDES permits for discharges covered by the TMDL.